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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/625,900	07/24/2003	Hwan-Guem Kim	1293.1781	1198
21171	7590	09/22/2004	EXAMINER	
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			BEATTY, ROBERT B	
			ART UNIT	PAPER NUMBER
			2852	

DATE MAILED: 09/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/625,900

Applicant(s)

KIM ET AL.

Examiner

Robert Beatty

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 July 2003 and 27 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

1. Figure s 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (EP 1,217,466 A1) in view of Hirst et al.

Lee (EP) teach a fusing device for an electrophotographic imaging device comprising a fusing roller 210 including a heating pipe 262 disposed in the center of the fusing roller, a heating element 213/260 disposed around the heating pipe in order to generate heat, and a Teflon outer layer 211 for reducing toner adhesion to

the roller (see Fig.5 and paragraphs 37-40). A pressure roller 230 will press against the fusing roller in order to form a nip and wherein a paper having an unfused toner image will be passed into the nip so that the toner image is fused by heat and pressure. The heat pipe is sealed and a working fluid 214 is stored within the heat pipe. Specifically, Lee (EP) teach everything claimed except the outer layer being a rubber and specifically a silicone rubber having a thickness between 1-3 mm, the diameter of the fusing roller being between 35-50 mm, and the outer layer being adhesively attached to the heater.

Hirst et al. teach a fusing device comprising a fusing roller 336 and a pressure roller 338 forming a nip with the fusing roller. A silicone rubber outer layer having a thickness of 2.5 mm is an outside layer of the fusing roller. The fusing roller has a diameter of 45 mm plus 2.5 mm for the silicone rubber layer (col.5, lines 24-39). It would have been obvious to one of ordinary skill in the art at the time the invention was made that the fusing roller in Lee (EP) would have a diameter within applicant's claimed range because this diameter size is typical of the state of the art for the purpose of fusing the toner image at an adequate speed without making the image forming apparatus too large. It further would have been obvious to one of ordinary skill in the art at the time the invention was made to use silicone rubber as the outside layer because it is typical in the art to use silicone rubber for the purpose of preventing toner from adhering the fusing roller (preventing toner offset). Finally, the use of a heat resistive adhesive to secure

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layers of a heating roller together is one of many ways one can manufacture a multi-layer roller so that the layers do not separate and of which the examiner takes Official Notice.

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Namiki et al., Matsuo et al., Hiroaka, Toyota et al., Sawamura et al., Lee et al., ('080), Lee ('896), Lee ('917), Lee ('515), Landa et al. (WO), Namiki et al. (JP), Namiki (JP), and Domoto et al. (JP) all teach various heat roller without internal resistive heaters and many with working fluids on the interior of the heat pipe.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Beatty whose telephone number is (571) 272-2130. The examiner can normally be reached on M-F from 9 to 6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur Grimley, can be reached on (571) 272-2136. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1782.

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A handwritten signature in black ink, appearing to read "Robert Beatty". The signature is stylized with a large, looped "R" and a cursive "Beatty".

Robert Beatty
Primary Examiner
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September 18, 2004